1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6 + 5x > 8x \text{ or } 3 + 5x < 6x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.33, -2.1]$ and $b \in [0.07, 2.55]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.2, -2.9]$ and $b \in [0.72, 2.54]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.1, -1.12]$ and $b \in [2.92, 3.67]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.86, -1.35]$ and $b \in [2.86, 3.55]$

E. $(-\infty, \infty)$

2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-3}{5} - \frac{10}{7}x \geq \frac{-5}{3}x - \frac{9}{6}$$

A. $[a, \infty)$, where $a \in [-6, 0]$

B. $(-\infty, a]$, where $a \in [-8.25, -3]$

C. $[a, \infty)$, where $a \in [-0.75, 6]$

D. $(-\infty, a]$, where $a \in [2.25, 5.25]$

E. None of the above.

3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{9}{7} - \frac{7}{6}x > \frac{-3}{3}x + \frac{6}{8}$$

A. $(-\infty, a)$, where $a \in [1.5, 3.75]$

B. $(-\infty, a)$, where $a \in [-4.5, -0.75]$

C. (a, ∞), where $a \in [0, 4.5]$

D. (a, ∞), where $a \in [-3.75, -1.5]$

E. None of the above.

4. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

Less than 2 units from the number 7.

A. $(-\infty, -5) \cup (9, \infty)$

B. $(-\infty, -5] \cup [9, \infty)$

C. $(-5, 9)$

D. $[-5, 9]$

E. None of the above

5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-4 + 8x < \frac{74x - 5}{9} \le -6 + 7x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [12.75, 15.75]$ and $b \in [1.5, 9]$

B. $(a, b]$, where $a \in [12, 16.5]$ and $b \in [2.25, 6]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [10.5, 18.75]$ and $b \in [2.25, 5.25]$

D. $[a, b)$, where $a \in [10.5, 16.5]$ and $b \in [3.75, 12]$

E. None of the above.

6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5x + 5 > 8x + 8$$

A. (a, ∞), where $a \in [-0.23, 0.79]$

B. (a, ∞), where $a \in [-1, -0.15]$

C. $(-\infty, a)$, where $a \in [-0.1, 1.1]$

D. $(-\infty, a)$, where $a \in [-2.6, 0.2]$

E. None of the above.

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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$3 + 7x > 10x \text{ or } 3 + 4x < 5x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, 0.75]$ and $b \in [-3.75, -0.75]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.05, -1.35]$ and $b \in [-3, 0.75]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-0.75, 3.75]$ and $b \in [0, 6]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-0.75, 1.12]$ and $b \in [0.75, 7.5]$

E. $(-\infty, \infty)$

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8. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

Less than 3 units from the number 8.

A. $[-5, 11]$

B. $(-\infty, -5] \cup [11, \infty)$

C. $(-\infty, -5) \cup (11, \infty)$

D. $(-5, 11)$

E. None of the above

---

9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 8x \le \frac{35x + 3}{4} < -6 + 5x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-22.5, -7.5]$ and $b \in [-6.75, 1.5]$

B. $[a, b)$, where $a \in [-15.75, -12]$ and $b \in [-3, 0.75]$

C. $(a, b]$, where $a \in [-20.25, -11.25]$ and $b \in [-2.4, -0.07]$

D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-16.5, -6.75]$ and $b \in [-5.62, 1.35]$

E. None of the above.

10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7x - 4 \leq 10x + 3$$

A. $(-\infty, a]$, where $a \in [0.29, 0.5]$

B. $(-\infty, a]$, where $a \in [-0.82, 0.24]$

C. $[a, \infty)$, where $a \in [-0.26, 0.47]$

D. $[a, \infty)$, where $a \in [-0.77, -0.2]$

E. None of the above.

11. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7 + 6x > 7x \text{ or } -7 + 8x < 10x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9.75, -3.75]$ and $b \in [-4.5, -2.25]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-8.25, -5.25]$ and $b \in [-6, 1.5]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-0.75, 5.25]$ and $b \in [4.5, 7.5]$

D. $(-\infty, a) \cup (b, \infty)$, where $a \in [0.75, 6.75]$ and $b \in [3.75, 8.25]$

E. $(-\infty, \infty)$

12. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{3}{9} + \frac{3}{5}x \geq \frac{6}{6}x - \frac{8}{4}$$

   A. $(-\infty, a]$, where $a \in [-9.75, -3.75]$

   B. $(-\infty, a]$, where $a \in [5.25, 8.25]$

   C. $[a, \infty)$, where $a \in [4.5, 6.75]$

   D. $[a, \infty)$, where $a \in [-7.5, -4.5]$

   E. None of the above.

13. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{3}{7} - \frac{5}{4}x < \frac{9}{8}x - \frac{10}{2}$$

   A. (a, ∞), where $a \in [-5.25, -1.5]$

   B. (a, ∞), where $a \in [0, 5.25]$

   C. $(-\infty, a)$, where $a \in [-2.25, 5.25]$

   D. $(-\infty, a)$, where $a \in [-3.75, 0.75]$

   E. None of the above.

14. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

More than 7 units from the number 9.

   A. $(2, 16)$

   B. $(-\infty, 2) \cup (16, \infty)$

   C. $[2, 16]$

   D. $(-\infty, 2] \cup [16, \infty)$

E. None of the above

15. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6 - 9x \leq \frac{-36x - 7}{8} < 7 - 5x$$

A. $(a, b]$, where $a \in [-1.72, -0.9]$ and $b \in [13.5, 18]$

B. $[a, b)$, where $a \in [-4.12, 0.53]$ and $b \in [13.5, 20.25]$

C. $(-\infty, a) \cup [b, \infty)$, where $a \in [-2.62, -0.22]$ and $b \in [14.25, 21]$

D. $(-\infty, a] \cup (b, \infty)$, where $a \in [-3.38, 0]$ and $b \in [13.5, 19.5]$

E. None of the above.

16. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6x + 7 > -4x - 3$$

A. $(-\infty, a)$, where $a \in [-7, 1]$

B. (a, ∞), where $a \in [-6, -1]$

C. (a, ∞), where $a \in [4, 8]$

D. $(-\infty, a)$, where $a \in [1, 10]$

E. None of the above.

17. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5 + 5x > 7x \text{ or } -4 + 7x < 10x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.25, -1.5]$ and $b \in [-6.75, 0.75]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.97, -0.67]$ and $b \in [-3.75, -0.75]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [1.05, 3]$ and $b \in [1.5, 3]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-0.75, 9]$ and $b \in [0.75, 3.75]$

E. $(-\infty, \infty)$

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18. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

No less than 8 units from the number 4.

A. $(-\infty, -4] \cup [12, \infty)$

B. $(-\infty, -4) \cup (12, \infty)$

C. $[-4, 12]$

D. $(-4, 12)$

E. None of the above

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19. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-8 - 7x < \frac{-42x + 8}{9} \leq 5 - 5x$$

A. $[a, b)$, where $a \in [-6.75, 2.25]$ and $b \in [9, 13.5]$

B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-9.75, 0]$ and $b \in [12, 17.25]$

C. $(a, b]$, where $a \in [-6, 0]$ and $b \in [10.5, 14.25]$

D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-5.25, -3]$ and $b \in [10.5, 15]$

E. None of the above.

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20. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$5x + 10 < 10x + 7$$

A. $(-\infty, a)$, where $a \in [-0.83, -0.34]$

B. (a, ∞), where $a \in [-2.1, -0.1]$

C. $(-\infty, a)$, where $a \in [-0.35, 2.13]$

D. (a, ∞), where $a \in [-0.4, 4.9]$

E. None of the above.

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21. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 + 6x > 8x \text{ or } 6 + 3x < 4x$$

A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9, -3]$ and $b \in [-3, 2.25]$

B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-9, -4.5]$ and $b \in [0.75, 2.25]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3, 2.25]$ and $b \in [3, 9]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-4.5, -0.75]$ and $b \in [3.75, 9.75]$

E. $(-\infty, \infty)$

---

22. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{9}{4} - \frac{4}{7}x \le \frac{3}{5}x - \frac{4}{8}$$

A. $[a, \infty)$, where $a \in [-3.75, 0.75]$

B. $(-\infty, a]$, where $a \in [-0.75, 8.25]$

C. $(-\infty, a]$, where $a \in [-3, -1.5]$

D. $[a, \infty)$, where $a \in [1.5, 3.75]$

E. None of the above.

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23. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-4}{7} - \frac{10}{4}x > \frac{-3}{5}x + \frac{8}{6}$$

A. (a, ∞), where $a \in [0.3, 1.2]$

B. $(-\infty, a)$, where $a \in [-1.88, 0.6]$

C. (a, ∞), where $a \in [-2.4, 0.22]$

D. $(-\infty, a)$, where $a \in [0.67, 1.12]$

E. None of the above.

---

24. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

More than 2 units from the number 6.

A. $(-\infty, 4) \cup (8, \infty)$

B. $(-\infty, 4] \cup [8, \infty)$

C. $[4, 8]$

D. $(4, 8)$

E. None of the above

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25. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$5 + 8x \leq \frac{53x + 4}{6} < 9 + 8x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-9, -1.5]$ and $b \in [-11.25, -9]$

B. $(a, b]$, where $a \in [-6, 0]$ and $b \in [-15, -6.75]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [-9.75, -3]$ and $b \in [-12.75, -5.25]$

D. $[a, b)$, where $a \in [-8.25, -0.75]$ and $b \in [-11.25, -8.25]$

E. None of the above.

---

26. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-10x + 5 < -9x + 9$$

A. $(-\infty, a)$, where $a \in [-7, 0]$

B. $(-\infty, a)$, where $a \in [2, 8]$

C. (a, ∞), where $a \in [-1, 8]$

D. (a, ∞), where $a \in [-11, -1]$

E. None of the above.

---

27. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$7 + 8x > 11x \text{ or } 9 + 7x < 9x$$

A. $(-\infty, a] \cup [b, \infty)$, where $a \in [0.75, 7.5]$ and $b \in [3.75, 9]$

B. $(-\infty, a) \cup (b, \infty)$, where $a \in [0, 6.75]$ and $b \in [0, 6.75]$

C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, -3.75]$ and $b \in [-5.25, -0.75]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6.75, 0]$ and $b \in [-6, 3.75]$

E. $(-\infty, \infty)$

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28. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

More than 9 units from the number 8.

A. $(-\infty, -1] \cup [17, \infty)$

B. $(-1, 17)$

C. $(-\infty, -1) \cup (17, \infty)$

D. $[-1, 17]$

E. None of the above

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29. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$6 - 6x \leq \frac{-7x - 8}{3} < 5 - 4x$$

A. $(-\infty, a) \cup [b, \infty)$, where $a \in [-2.25, 7.5]$ and $b \in [-1.5, 6.75]$

B. $(-\infty, a] \cup (b, \infty)$, where $a \in [1.5, 6.75]$ and $b \in [3.75, 6]$

C. $[a, b)$, where $a \in [-2.25, 5.25]$ and $b \in [2.25, 9]$

D. $(a, b]$, where $a \in [-2.25, 3]$ and $b \in [2.25, 9]$

E. None of the above.

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30. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5x + 7 \geq 9x - 6$$

A. $(-\infty, a]$, where $a \in [-3.8, -0.4]$

B. $[a, \infty)$, where $a \in [-1.6, -0.3]$

C. $[a, \infty)$, where $a \in [-0.6, 2.5]$

D. $(-\infty, a]$, where $a \in [-0.7, 1.9]$

E. None of the above.